

What is claimed is:

1. An ionic conductor comprising:
a porous body which has a plurality of continuous
5 pores passing through said porous body; and
ionizable functional groups attached to surfaces of
said continuous pores.
2. An ionic conductor according to claim 1, wherein
10 said porous body comprises a porous ceramics.
3. An ionic conductor according to claim 2, wherein
said porous ceramics comprises a porous glass, a porous
alumina, or a porous mullite.
- 15 4. An ionic conductor according to claim 1, wherein
an average diameter of said continuous pores is in the range
of 1 nm to 1 μ m, and a porosity of said porous body is in
the range of 5 to 90 %.
- 20 5. An ionic conductor according to claim 1, wherein
hydrophobic groups are attached to the surfaces of said
continuous pores.
- 25 6. An ionic conductor according to claim 5, wherein
said hydrophobic groups are alkyl groups or fluorocarbon
functional groups.

7. An ionic conductor according to claim 1, wherein said porous body has a plate-like shape, a pipe-like shape, or a honeycomb shape.

5 8. A method of producing an ionic conductor, said method comprising:

preparing a porous body which has a plurality of continuous pores passing through said porous body; and

10 attaching ionizable functional groups to active groups being present on surfaces of said continuous pores by a covalent bond or a hydrogen bond.

9. A method of producing an ionic conductor, said method comprising:

15 preparing a porous body which has a plurality of continuous pores passing through said porous body;

bonding hydrophobic groups to active groups being present on surfaces of said continuous pores; and

20 attaching one of anionic surface active agents, cationic surface active agents, and amphoteric surface active agents, each of which has ionizable functional groups and one of alkyl groups and fluorocarbon functional groups, to said hydrophobic groups.

25 10. An ionic conductive diaphragm comprising an ionic conductor, characterized in that:

said ionic conductor comprises a porous body which has a plurality of continuous pores passing through said

porous body, and ionizable functional groups attached to surfaces of said continuous pores.

11. An ionics element comprising an ionic conductor,
5 characterized in that:

said ionic conductor comprises a porous body which has a plurality of continuous pores passing through said porous body, and ionizable functional groups attached to surfaces of said continuous pores.

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12. An ionics instrument having an ionic conductor, characterized in that:

said ionic conductor comprises a porous body which has a plurality of continuous pores passing through said 15 porous body, and ionizable functional groups attached to surfaces of said continuous pores.